

WHAT IS CLAIMED IS:

1. A process of removing residue from a complementary metal oxide semiconductor (CMOS) device which includes a tungsten gate conductor which has been subject to stack etch/ion implantations and photoresist stripping steps comprising the step of contacting a CMOS device which includes a tungsten gate conductor with a cleaning composition comprising sulfuric acid and hydrogen peroxide present in a volume ratio of at least about 6:1, said contact occurring at atmospheric pressure and a temperature of between about 70°C and about 90°C.
2. A process in accordance with Claim 1 wherein said volume ratio of said sulfuric acid to said hydrogen peroxide is at least about 6:1 and about 100:1.
3. A process in accordance with Claim 1 wherein said volume ratio of sulfuric acid to hydrogen peroxide is in the range of between about 6:1 and about 10:1.
4. A process in accordance with Claim 1 wherein said volume ratio of sulfuric acid to hydrogen peroxide about 8:1.
5. A process in accordance with Claim 1 wherein contact of said composition with said CMOS device occurs over a period of between about 1 minute and about 10 minutes.
6. A process in accordance with Claim 5 wherein said period of time is in the range of between about 2 minutes and about 5 minutes.
7. A process in accordance with Claim 1 comprising pre-mixing of said sulfuric acid and said hydrogen peroxide whereby said cleaning composition is formed.
8. A process in accordance with Claim 1 comprising in-situ mixing of said sulfuric acid and said hydrogen peroxide whereby said cleaning composition is formed.

9. A process in accordance with Claim 1 wherein said cleaning composition consists essentially of sulfuric acid and hydrogen peroxide.
10. A composition which comprises sulfuric acid and hydrogen peroxide present in a volume ratio of at least about 6:1.
11. A composition in accordance with Claim 10 wherein said volume ratio is in the range of between 6:1 and about 100:1.
12. A composition in accordance with Claim 11 wherein said volume ratio is in the range of between about 6:1 and about 10:1.
13. A composition in accordance with Claim 12 wherein said volume ratio is about 8:1.
14. A composition which consists essentially of sulfuric acid and hydrogen peroxide present in a volume ratio of at least about 6:1.
15. A composition in accordance with Claim 14 wherein said volume ratio is in the range of between about 6:1 and about 100:1.
16. A composition in accordance with Claim 15 wherein said volume ratio is in the range of between about 6:1 and about 10:1.
17. A composition in accordance with Claim 16 wherein said volume ratio in about 8:1.